

I claim:

1 1. An apparatus for displaying the state of wear of a brake lining on a vehicle, the brake lining
2 wear display apparatus comprising:

3
4 a wear sensor for sensing the state of wear of the brake lining;

5
6 a display for providing a visual signal indicating the brake lining wear state;

7
8 an electronic control/evaluation system for controlling the display device;

9
10 an electrical connecting device for connecting the wear sensor to the electronic
11 control/evaluation system, wherein the electronic control/evaluation system evaluates
12 signals from the wear sensor and provides a signal to the display for generating the visual
13 signal;

14
15 a memory storage device for storing a current wear state of the brake lining as well as
16 previously sensed wear states; and

17
18 a power supply device for providing power to the wear display device.

1 2. A brake lining wear display apparatus as recited in claim 1, wherein the power supply device
2 comprises an external power supply.

1 3. A brake lining wear display apparatus as recited in claim 1, wherein the power supply device
2 comprises a battery.

1 4. A brake lining wear display apparatus as recited in claim 1, wherein the electronic
2 control/evaluation system signals the display device to provide a plurality of visual signals, the
3 visual signals comprising a first visual signal when the wear sensor senses an intermediate stage

4 of brake lining wear and a second visual signal when the wear sensor senses a stage of brake
5 lining wear beyond the intermediate stage.

1 5. A brake lining wear display apparatus as recited in claim 1, further comprising a display for
2 providing a visual signal indicating status of the power supply.

1 6. A brake lining wear display apparatus as recited in claim 1, further comprising a display for
2 indicating an interruption in a connecting device between the electronic control/evaluation
3 system and the wear sensor.

1 7. A brake lining wear display apparatus as recited in claim 1, further comprising a data
2 connection for transmitting signals between the electronic control/evaluation system and an
3 external electronic system.

1 8. A brake lining wear display apparatus as recited in claim 1, wherein the storage device
2 outputs data signals to the external electronic system via the electronic control/evaluation system
3 only after a predetermined code word has been entered.

1 9. A brake lining wear display apparatus as recited in claim 1, wherein the display comprises a
2 signal light.

1 10. A brake lining wear display apparatus as recited in claim 1, wherein the signal light
2 comprises an LED.

1 11. A brake lining wear display apparatus as recited in claim 1, wherein the electronic
2 control/evaluation system and the display device are arranged on a circuit board.

1 12. A vehicle, comprising:
2

3 a brakable axle including wheels;
4

5 a brake lining operatively associated with at least one of the wheels; and
6
7 an apparatus for displaying the state of wear of the at least one brake lining, the brake
8 lining wear display apparatus comprising
9
10 a wear sensor for sensing the state of wear of the at least one brake lining,
11
12 a display for providing a visual signal indicating the brake lining wear state,
13
14 an electronic control/evaluation system for controlling the display device,
15
16 an electrical connecting device for connecting the wear sensor to the electronic
17 control/evaluation system, wherein the electronic control/evaluation system
18 evaluates signals from the wear sensor and provides a signal to the display for
19 generating the visual signal,
20
21 a memory storage device for storing a current wear state of the brake lining as
22 well as previously sensed wear states, and
23
24 a power supply device for providing power to the wear display device.

1 13. A vehicle as recited in claim 12, wherein a brake lining is operatively associated with each
2 of the wheels on the brakable axle, and the brake lining wear display apparatus is provided for
3 each wheel.

1 14. A vehicle as recited in claim 12, wherein the power supply device comprises a power supply
2 associated with the vehicle.

1 15. A vehicle as recited in claim 12, wherein the power supply device comprises a battery
2 associated with the brake lining wear display apparatus.

1 16. A vehicle as recited in claim 12, wherein the electronic control/evaluation system signals the
2 display device to provide a plurality of visual signals, the visual signals comprising a first visual
3 signal when the wear sensor senses an intermediate stage of brake lining wear and a second
4 visual signal when the wear sensor senses a stage of brake lining wear beyond the intermediate
5 stage.

1 17. A vehicle as recited in claim 12, wherein the brake lining wear display apparatus further
2 comprises a display for indicating an interruption in a connecting device between the electronic
3 control/evaluation system and the wear sensor.

1 18. The vehicle as recited in claim 12, wherein the display is disposed in the chassis or in the
2 passenger compartment of the vehicle.

1 19. A vehicle as recited in claim 12, wherein the brake lining wear display apparatus further
2 comprises a data connection for transmitting signals between the electronic control/evaluation
3 system and an external electronic system.

1 20. A vehicle as recited in claim 19, wherein the external electronic system comprises an electric
2 brake system associated with the vehicle.

1 21. A vehicle as recited in claim 19, wherein the external electronic system comprises an
2 odometer, and wherein the current odometer reading is simultaneously stored in the memory
3 storage device with the current wear state of the brake lining.

1 22. A vehicle as recited in claim 19, further comprising a parking brake, and wherein the
2 external electronic system comprises means for sensing the status of the parking brake for
3 signaling sending a signal to the electronic control/evaluation system when the parking brake is
4 activated.